

# **MARION COUNTY COURTHOUSE SQUARE**

## **EVALUATION REPORT**

*Prepared for*

**Marion County**

*Prepared by*

**David Evans and Associates, Inc.  
2100 SW River Parkway  
Portland, Oregon 97201**

**September 16, 2003**



**DAVID EVANS AND ASSOCIATES INC.**

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## INTRODUCTION

Located in downtown Salem, Oregon, the Courthouse Square block is bounded by Court Street on the south, Chemeketa Street on the north, Church Street on the east, and High Street on the west. At the present time, the block is co-owned by Marion County and Salem Area Mass Transit.

A five-story post-tensioned concrete office building with brick veneer exterior (currently occupied by Marion County) occupies the southern portion of the block. The central portion of the block is in use as a bus terminal for Salem Area Mass Transit, and the northern portion of the block is used for pedestrian access. This northern portion of the block is referred to as the "North Block" and is the focus of this evaluation report. It is defined by grids A through O in the east-west direction and grids 1 through 3A in the north-south direction, as laid out on sheet A 1.1.2 (see attached). Beneath the entire block there is a one-story underground parking facility.

## SCOPE

David Evans and Associates, Inc. (DEA) has been retained to conduct a structural evaluation of the North Block. The purpose of this evaluation is to determine if the existing parking structure was built with sufficient capacity to support future four-story development consisting of one story of commercial space and three stories of wood-framed residential above.

Our evaluation consists of the following:

- A review of available documentation, concerning the original design of the North Block, as provided by Marion County;
- A visit to the Courthouse Square site to examine the existing condition of the parking garage in order to determine if it was built as the construction documents specify; and
- An evaluation report summarizing our findings, including any structural calculations performed.

Observations, conclusions, and recommendations contained in this report are based on our best engineering judgment. Concealed problems with the construction of the building may exist that cannot be revealed through our review. DEA, therefore, can in no way warrant or guarantee the condition of the existing construction of the building.

## DOCUMENT REVIEW

Our document review was limited to the files kept by Marion County. Documents reviewed included existing structural drawings, change orders, correspondence, and construction photos.

We were not able to locate any meeting minutes, or correspondence directly to or from the engineer regarding the wording of their contract with the architect. We were also not able to locate any project specifications. We were, however, able to retrieve enough information from the other documents to analyze the existing building components noted below, and determine if they have sufficient capacity for supporting the proposed addition.

## Structural Drawings

The structural drawings were dated December 30, 1998 and included sheets S 1.1.1 – S 8.1.5. According to these drawings, structural framing for the North Block consists of a 10-inch post-tension concrete slab with a 3-inch topping slab at street level measuring 349 feet by 54 feet, supported by a perimeter concrete wall on three sides and interior concrete columns. These walls and columns are supported by concrete strip footings and spread footings respectively. The typical column is 12 inches x 14 inches with eight #9 bars as vertical reinforcement. There are two rows of columns running in the east-west direction. The first row is 18 feet, and the second row is 52 feet from the north wall of the parking garage. The columns in both rows are spaced at 28 feet on center in the east-west direction. The typical footing is an 8-foot square by 2-foot deep footing with seven #8 bars in each direction. Immediately south of the second row of columns there is an isolation joint in the 10-inch slab separating the North Block from the transit area. This isolation joint separates a row of double columns sharing the same footing; the columns on the south side of the joint support the bus terminal.

It appears from these drawings that the North Block portion was included as an add alternate. As such, the drawings do not have sufficient information regarding slab reinforcement to verify the strength of the post-tensioned slab. It may be possible to make some assumptions regarding the reinforcement in order to evaluate the capacity of the slab, but this is outside the scope of this report.

The general notes page Sheet S 1.1.1 (see attached) includes a list of design live loads and a note regarding the North Block. The live loads are described as follows:

### Live Loads

Roof.....25 lbs. psf.  
Floor.....50 lbs. psf.  
100 psf. assembly areas and hallways  
Traffic Lanes 250 psf.

The structural narrative section includes the following note in regard to the North Block area: "A bonded post-tensioned slab has been provided to allow for a future four to five story wood frame structure. In addition, the columns have been sized for a five-story concrete structure, with splice placed provided. The main floor slab has been isolated from the bus lanes. Independent columns and a separation joint are to be installed along grids 3 and 10 to prevent vibration transfer into the buildings."

## Architectural Drawings

The architectural drawings reviewed were dated February 25, 1999 and included sheets A 1.1.1 and A 1.1.2. These drawings were used to get a general sense of the project. Sheet A 1.1.2 (see attached) includes a note on the North Block area, labeling it as a "Future Private Development Pad."

## Change Orders

After reviewing the available change orders, we found no evidence that a change had been made to modify the plans in any way that would affect the site's ability to support the proposed addition.

## Correspondence

A letter dated January 4, 1999 from Leonard Lodder, with Arbuckle Costic Architects, to Billy Wasson, the Marion County project coordinator, indicates that the original contract included design for a future addition to the North Block including four floors of wood framing or five floors of concrete or steel framing (see attached). The letter was submitted due to a change in scope proposed by Leonard Lodder to include design for a future addition of five floors of wood framing.

## Construction Photos

The aerial photos taken of the site during construction allowed us to verify the size of the footings. The footings beneath the North Block area appear to be of similar size to the footings beneath the existing office building and bus terminal, and as best we could scale from the photos, are the same size as indicated on the structural drawings. Reference Photo A.

## **SITE OBSERVATION**

Our observations of the existing underground parking structure were drawn primarily from a site visit of the facility. On Tuesday, August 26, at 1:00 p.m. DEA representatives Howard Wells and Tyler Ashburn toured the North Block area of the parking structure. As with most finished structures, much of the structural detail was concealed and not accessible. The main purpose of the site visit was to observe the as-built condition of the parking structure, and to verify that it was constructed as specified in the plans.

Our observations included the following:

- Currently there is a row of reinforced concrete columns supporting the concrete deck above the parking garage at north end of North Block. They are located approximately 18 feet from the north wall.
- Along the south side of the North Block there is a double line of columns. Between the two columns there is an isolation joint in the concrete deck above separating the slab between the North Block and the remainder of the developed site.
- The entire concrete North Block structure appeared to be in good condition based on visual examination. There was one minor crack noted on the south wall inside the parking garage. It was  $1/32^{\text{nd}}$  of an inch or less and did not appear to extend more than  $1/2$  inch into the concrete. It appears that this crack was due to shrinkage and is cosmetic.

Comparing our site observations with the information provided, it appears that the existing structure was built in conformance with the structural drawings.

## STRUCTURAL EVALUATION

To determine the ability of the existing structure to support the proposed residential development, we analyzed the existing concrete columns and footings by comparing the calculated capacity of the members with the combined loads from the existing structure and the proposed addition.

Based on the column dimensions and reinforcement information provided in the structural drawings, the calculated capacity for typical column "C14," as noted on the column schedule (see attached), was 928 kips, which is 298 kips stronger than the capacity noted in the column schedule on sheet S 1.1.2 of the structural drawings noted as 630 kips.

Based on the footing dimensions and reinforcement information provided in the structural drawings along with an allowable soil bearing pressure of 6000 psf as noted on sheet S 1.1.1, the calculated footing capacity is 384 kips, which is less than the column capacity noted above. Therefore, the footing capacity governs the amount of load that can be added to the existing structure.

Since the proposed addition will include wood framed residential construction, we have assumed the following dead and live loads for design, based on typical loading requirements for this type of construction:

First floor loading as currently used; LL = 100 psf

2<sup>nd</sup> – 4<sup>th</sup> Floor residential floor DL = 18 psf, wall DL = 10 psf, LL = 40 psf,

Roof DL = 15 psf, LL = 25 psf, Snow Load = 25 psf

Distributing these loads to the columns and footings using the associated tributary area, we arrived at a total load of 163 kips at column C 14 for the proposed addition. Adding this load to the load from the existing construction, we get a total load of 325 kips, which is less than the calculated capacity of the footing.

Based on this comparison, it appears that the existing construction has adequate capacity to support the proposed addition.

In reference to the comment in the general notes regarding the proposed addition, we also evaluated the capacity of the existing structure to support an added level of wood framing or a five-story concrete or steel structure. Under the loading of an additional story, the columns and footings appeared to remain adequate. The estimated total load, including the additional story, came to 367 kips. With a typical footing capacity of 384 kips, the current construction does appear able to support the fifth story. Because both concrete and steel framing are significantly heavier than wood framing, by inspection we can conclude that the footings would not be able to support a five-story concrete or steel framed building.

While the columns and footings appear adequate, we could not examine the load transfer method. The engineer of record for the new development must verify the transfer of loads into the columns

and footings, as we have no way to analyze the existing post-tensioned concrete slab nor do we have any information on the configuration of the proposed development.

## CONCLUSION

Based upon our investigation, as well as our calculations, the parking structure appears to have adequate strength for the proposed addition including a four-story development consisting of one story of retail space and three stories of wood-framed residential space. This conclusion is based on the following:

- After reviewing the available documents, we found evidence in the structural drawings that the original design was intended to support an additional structure. Based on a comparison of the structural drawings to our observations during our site visit and construction photos, it appears that the existing structure generally conforms to the design intent indicated on the structural drawings.
- Structural analysis of the columns and footings indicate adequate strength to support the proposed addition. This analysis assumes adequate load transfer to these members and does not include review of the post-tensioned slab capacity.

Loading from the proposed addition is based on assumed loads derived from our experience with buildings of similar construction to that of the proposed addition. We believe that these assumed loads are conservative enough to verify the capacity of the existing framing. If, however, the actual loads from the proposed addition exceed these assumptions, the conclusions made in this report should be considered invalid and additional analysis would be required.

## **ATTACHMENTS**



DAVID EVANS  
AND ASSOCIATES INC.

JOB DESCRIPTION COURTHOUSE SQUARE  
CALCULATION FOR MARION Co.

JN. MARIN 0000-0030  
BY HTA DATE 9/2/03  
SHEET 1 OF 3 SHEETS  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECK TYPICAL COLUMN C14 STRENGTH:

$$12'' \times 14''$$

8 x #9 VERT. REINF.

$f'_c = 5000 \text{ psi}$  }  
 $f_y = 60,000 \text{ psi}$  } GENERAL NOTES

$$A_{st} = 8 \text{ in}^2$$

$$P_{nc(max)} = 0.8 [0.85 f'_c (A_g - A_{st}) + A_{st} f_y]$$
$$= 0.8 [0.85(5000) (160) + 8(60,000)]$$

$$P_{nc(max)} = 928 \text{ kips} > 630 \text{ kips DESIGN}$$
$$\therefore \text{OK}$$

CHECK COLUMN C15 STRENGTH

SAME SIZE BUT w/ 8 x #10 REINF.

$$P_{nc(max)} = 0.8 [0.85(5000) (168 - 10.16) + 10.16(60,000)]$$

$$P_{nc(max)} = 1,024 \text{ kips} > 630 \text{ kips DESIGN}$$
$$\therefore \text{OK}$$

- ALL OTHER COLUMNS OK BY INSPECTION



DAVID EVANS  
AND ASSOCIATES INC.

JOB DESCRIPTION COURTHOUSE SQUARE  
CALCULATION FOR MARION Co.

JN. MAR N 0000-0030

BY HTA DATE 9/2/03

SHEET 2 OF 3 SHEETS

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECK COLUMN w/ ESTIMATED BUILDING LOAD

$$\text{TRIB. AREA.} = 28' \times 22' = 616 \text{ ft}^2$$

CURRENT SLAB LOADING:  $13' = \text{SLAB} = 162 \text{ psf} = 100 \text{ kips}$

LIVE LOADING:  $100 \text{ psf} = 61.6 \text{ kips}$

$$\sum 161.6 \text{ kips}$$

ADDITIONAL BUILDING LOAD: (ASSUME 4 STORIES)

1<sup>ST</sup> FLOOR RETAIL:

LL ALREADY ACCOUNTED FOR + 20 psf PARTITIONS = 40 psf

2<sup>ND</sup>-4<sup>TH</sup> FLOORS RESIDENTIAL:

40 psf LL + 18 psf FLOOR DL + 10 psf PART = 68 psf / FLOOR

ROOF:

25 psf LL + 15 psf DL + 25 SNOW = 40 psf

\* USE  
SNOW OR  
LL; NOT  
BOTH

$$\sum 264 \text{ psf}$$

LOAD:

$$264 \text{ psf} \times 616 \text{ ft}^2 = 163 \text{ kips}$$

TOTAL LOADING o "C14":

$$161.6 \text{ kips} + 163 = 325 \text{ kips} < 630 \text{ kips}$$

∴ OK



DAVID EVANS  
AND ASSOCIATES INC.

JOB DESCRIPTION COURTHOUSE SQUARE  
CALCULATION FOR MARION Co.

JN. MARIN 0000-0030

BY HTA DATE 9/4/03

SHEET 3 OF 3 SHEETS

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

STANDARD FOOTING CHECK:

FOOTING F8:  $8' \times 8' = 64 \text{ ft}^2$  AREA

ALLOWABLE BEARING PRESSURE = 6000 psf

$\therefore$  ALLOWABLE LOAD = 384 kips

LOAD ON COLUMN w/ BUILDING = 325 kips

$\therefore$  OK

CHECK ADD'L STORY (FOR TYPICAL COLUMN + FOOTING)

ADDITIONAL LOADING = 41.9 kips

TOTAL LOADING = 367 kips

$\therefore$  COLUMN OK

$\therefore$  FOOTING OK

\* NOTE: ALTHOUGH THE FOOTINGS APPEAR ADEQUATE  
FOR A 5-STORY WOOD FRAMED ADDITION, IT  
WOULD NOT BE ADEQUATE FOR A 5-STORY CONCRETE  
OR STEEL BUILDING DUE TO ADDITIONAL DEAD LOAD.

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=====  
Computer program for the Strength Design of Reinforced Concrete Sections  
=====

Licensee stated above acknowledges that Portland Cement Association (PCA) is not and cannot be responsible for either the accuracy or adequacy of the material supplied as input for processing by the PCACOL(tm) computer program. Furthermore, PCA neither makes any warranty expressed nor implied with respect to the correctness of the output prepared by the PCACOL(tm) program. Although PCA has endeavored to produce PCACOL(tm) error free, the program is not and can't be certified infallible. The final and only responsibility for analysis, design and engineering documents is the licensees. Accordingly, PCA disclaims all responsibility in contract, negligence or other tort for any analysis, design or engineering documents prepared in connection with the use of the PCACOL(tm) program.

#### General Information:

File Name: untitled.col  
Project: Courthouse Square  
Column: C14  
Code: ACI 318-95

Engineer: HTA  
Units: English

Run Option: Investigation  
Run Axis: X-axis

Slenderness: Considered  
Column Type: Structural

## Material Properties

$f'c = 5 \text{ ksi}$   
 $Ec = 4030.51 \text{ ksi}$   
 $fc = 4.25 \text{ ksi}$   
 Ultimate strain = 0.003 in/in  
 $\text{Beta}_1 = 0.8$

fy = 60 ksi  
Es = 29000 ksi  
Rupture strain = Infinity

### Section:

Gross section area,  $Ag = 168 \text{ in}^2$   
 $I_x = 2744 \text{ in}^4$   
 $X_o = 0 \text{ in}$

Depth = 14 in

$$I_y = 2016 \text{ in}^4$$

### Reinforcement:

Rebar Database: ASTM A615				Rebar Database: ASTM A615				Rebar Database: ASTM A615			
Size	Diam (in)	Area (in^2)	Size	Diam (in)	Area (in^2)	Size	Diam (in)	Area (in^2)	Size	Diam (in)	Area (in^2)
# 3	0.38	0.11	# 4	0.50	0.20	# 5	0.63	0.31	# 6	0.75	0.44
# 9	1.13	1.00	# 10	1.27	1.27	# 11	1.41	1.56	# 14	1.69	2.25
			# 18	2.26	4.00						

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 $\phi(a) = 0.8$ ,  $\phi(b) = 0.9$ ,  $\phi(c) = 0.7$

Layout: Rectangular

Pattern: All Sides Equal (Cover to transverse reinforcement)

Total steel area,  $A_s = 8.00 \text{ in}^2$  at 4.76%

8 #9 Cover = 1.5 in

### Slenderness:

### Sway Criteria:

X-axis: Braced column

Column Axis	Height ft	Width in	Depth in	I in <sup>4</sup>	f'c ksi	Ec ksi
Design	X	10	12	14	2744	5
Above	X	(no column specified...)				
Below	X	(no column specified...)				

X-Beams	Length	Width	Depth	I	f'c	Ec
Location	ft	in	in	in^4	ksi	ksi
Above Left	28	316	10	26333.3	5	4030.51
Above Right	28	316	10	26333.3	5	4030.51
Below Left	(no beam specified...)					
Below Right	(no beam specified...)					

Effective Length Factors:

Axis	Psi (top)	Psi (bot)	k (Braced)	k (Sway)	klu/r
X	0.280	999.000	0.864	(N/A)	25.65

Moment Magnification Factors:

Stiffness reduction factor, phi(K) = 0.75

Cracked-section coefficients: cI(beams) = 0.35; cI(columns) = 0.7

0.2\*Ec\*Ig + Es\*Ise (X-axis) = 5.83e+006 kip-in<sup>2</sup>

X-axis	Braced	Sway				
Ld/Comb	Pc (kip)	Betad	Cm	Delta	Pc (kip)	Delta
1 U1	3752	0.427	0.000	1.000	*	N/A
U2	3412	0.569	0.000	1.000	*	N/A
U3	2295	1.333	0.000	1.000	*	N/A
U4	2095	1.556	0.000	1.000	*	N/A

\* Slenderness need not be considered.

Load Combinations:

U1 = 1.400\*Dead + 1.700\*Live + 0.000\*Lateral  
U2 = 1.050\*Dead + 1.275\*Live + 1.275\*Lateral  
U3 = 1.050\*Dead + 0.000\*Live + 1.275\*Lateral  
U4 = 0.900\*Dead + 0.000\*Live + 1.300\*Lateral

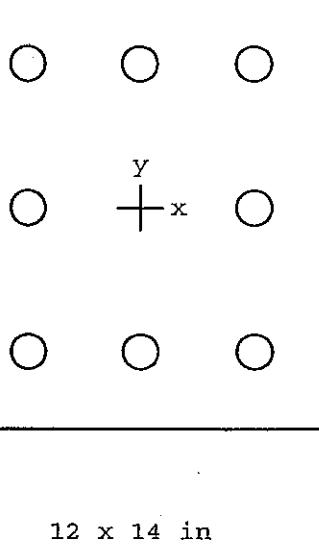
Service Loads:

Load No.	Axial Load Case	Mx @ Top kip	Mx @ Bot k-ft	My @ Top k-ft	My @ Bot k-ft
1	Dead	164.4	10.0	0.0	0.0
	Live	181.7	25.0	0.0	0.0
	Latl	0.0	0.0	0.0	0.0

Factored Loads and Moments with Corresponding Capacities: (see user's manual for notation)

Load No.	Pu Combo	Mux kip	fMnx k-ft	fMn/Mu
1	1 U1	539.0	56.5	98.9 1.750
2	U2	404.3	42.4	126.8 2.993
3	U3	172.6	10.5	158.3 15.073
4	U4	148.0	9.0	154.9 17.210

\*\*\* Program completed as requested! \*\*\*



Code: ACI 318-95

Units: English

Run axis: About X-axis

Run option: Investigation

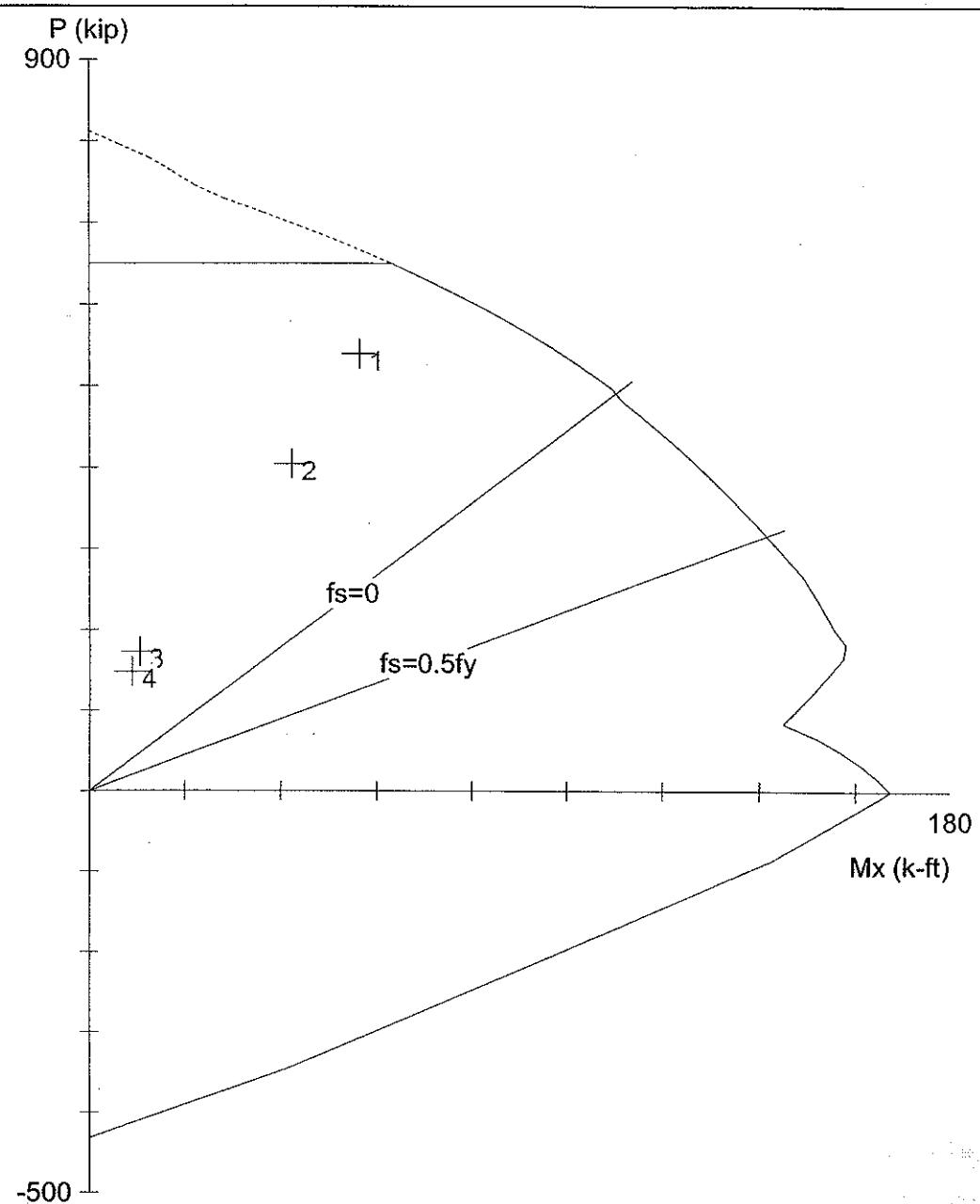
Slenderness: Considered

Column type: Structural

Bars: ASTM A615

Date: 09/04/03

Time: 12:21:11



PCACOL V3.0b - Licensed to: David Evans and Associates, Inc.

File: untitled.col

Project: Courthouse Square

Column: C14

Engineer: HTA

fc = 5 ksi

fy = 60 ksi

Ag = 168 in<sup>2</sup>

8 #9 bars

Ec = 4031 ksi

Es = 29000 ksi

As = 8.00 in<sup>2</sup>

Rho = 4.76%

fc = 4.25 ksi

e\_rup = Infinity

Xo = 0.00 in

Ix = 2744 in<sup>4</sup>

e\_u = 0.003 in/in

Yo = 0.00 in

Iy = 2016 in<sup>4</sup>

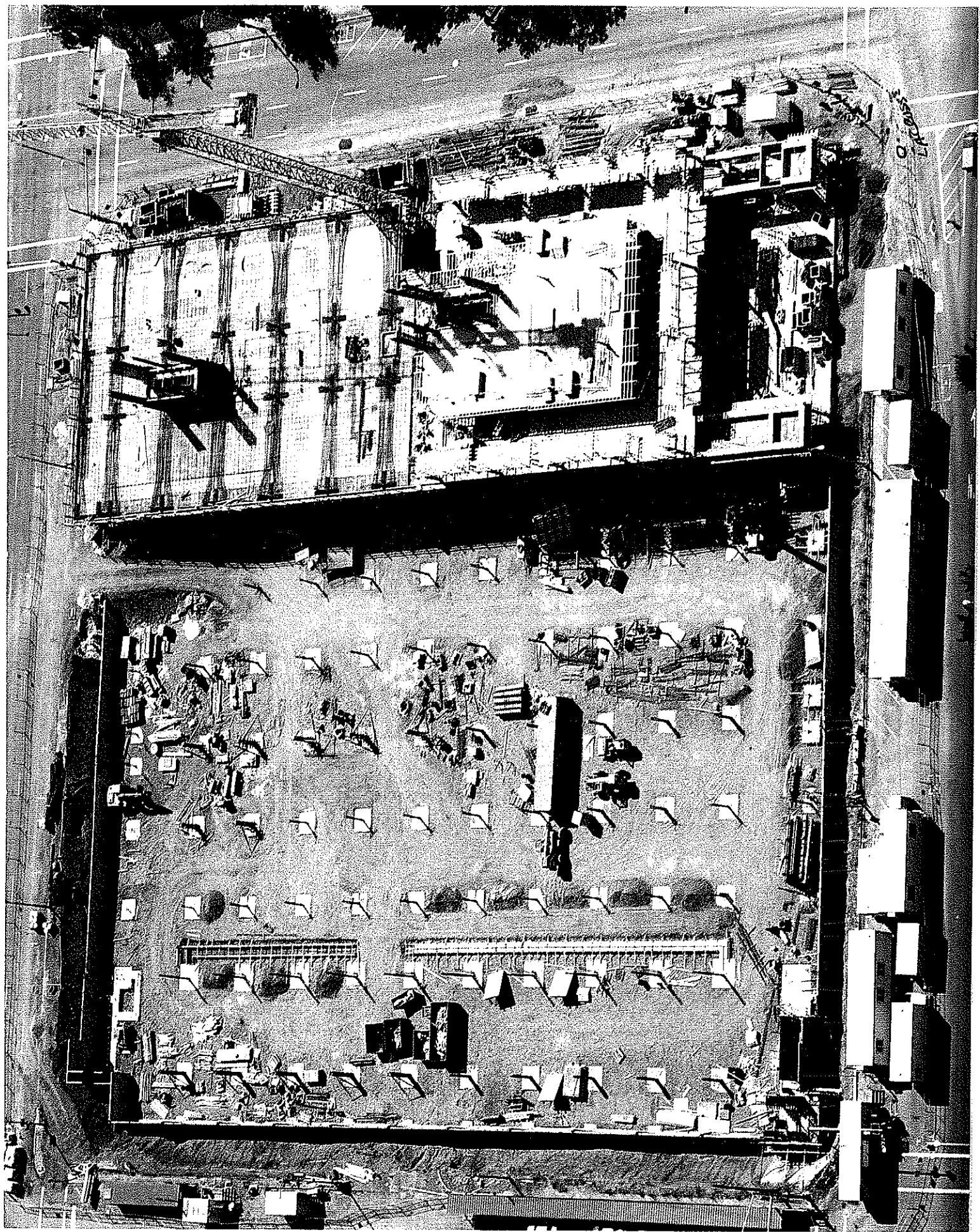
Beta1 = 0.8

Clear spacing = 2.43 in

Clear cover = 1.88 in

Confinement: Tied

phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.7



January 4, 1999



Kim Arbuckle, AIA  
Alan E. Costic, AIA  
Walter E. Bensman, Jr., AIA  
Clayton Vorse, AIA  
Leonard Lodder, AIA  
Richard S. Rothweiler, AIA  
Richard S. Boyd, AIA  
Phillip K. Settecase, FAIA

**ARBUCKLE COSTIC ARCHITECTS, INC.**

363 State Street  
Salem, OR 97301-3533  
503/581-4114 Fax: 503/581-3655  
E-Mail: acarch@open.org

**Billy Wasson**  
Project Co-Coordinator/Director of Corrections  
Marion County  
4040 Aumsville Highway SE  
Salem, Oregon 97302

**RE: Modifications to the Slab Design at Additive Alternate No. 2**  
Courthouse Square  
Project No. 9828

Dear Billy:

At a Development Team meeting on December 17, 1998, we were asked to review the parameters for the future Transit Oriented Development. The current suspended structural slab at grade is designed as a 10" post-tensioned concrete slab. It is designed to provide support of either of two possible future structural configurations:

1. One option is to build up to four (4) floors of wood framing on the slab.
2. The second option is to provide for up to five (5) floors of a concrete or steel frame.

The first option may now require a slab design that would require the capacity to carry five floors of wood frame construction. In order to change the slab design to support this new load, additional design effort is necessary. Tasks will include: Re-sizing footings and columns; adjusting the post-tensioning layout; adjusting the slab reinforcing layout; and revising shear reinforcing at the column heads. The estimated square footage of Alternate No. 2 is approximately 18,000 square feet.

We are offering to provide this additional design and documentation for revision of scope for a lump sum fee as follows:

Century West Engineering	\$7,800.00
Arbuckle Costic Architects	<u>780.00</u>
 Total:	 <b>\$8,580.00</b>

Since time is of the essence and documents have already been issued for bid, we request approval of this additional service as early as possible so that documentation can be issued as part of an addendum. To proceed with these services, indicate your approval by signing below and returning the original of this letter to our office as soon as possible.

Should you have any questions regarding the above, please call,

Sincerely,

Leonard Lodder, A.I.A.  
Architect

LL:nd

cc: John Whittington, Salem Area Transit  
Craig Lewis, Melvin Mark Development Company

9828.1A

Billy Wasson  
Re: Additive Alternate No. 2  
Courthouse Square  
Project No. 9828  
January 4, 1999  
Page 2 of 2

TO: ARBUCKLE COSTIC ARCHITECTS, INC.

We have read the above letter and agree to the terms stated herein. Arbuckle Costic Architects will submit monthly invoices for work completed. Payments are due and payable within twenty (20) days from the date of invoice. Amounts unpaid after thirty (30) days shall bear interest at the legal rate prevailing from time to time at the principal place of business of Arbuckle Costic Architects.

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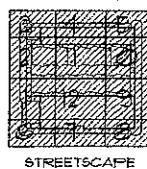
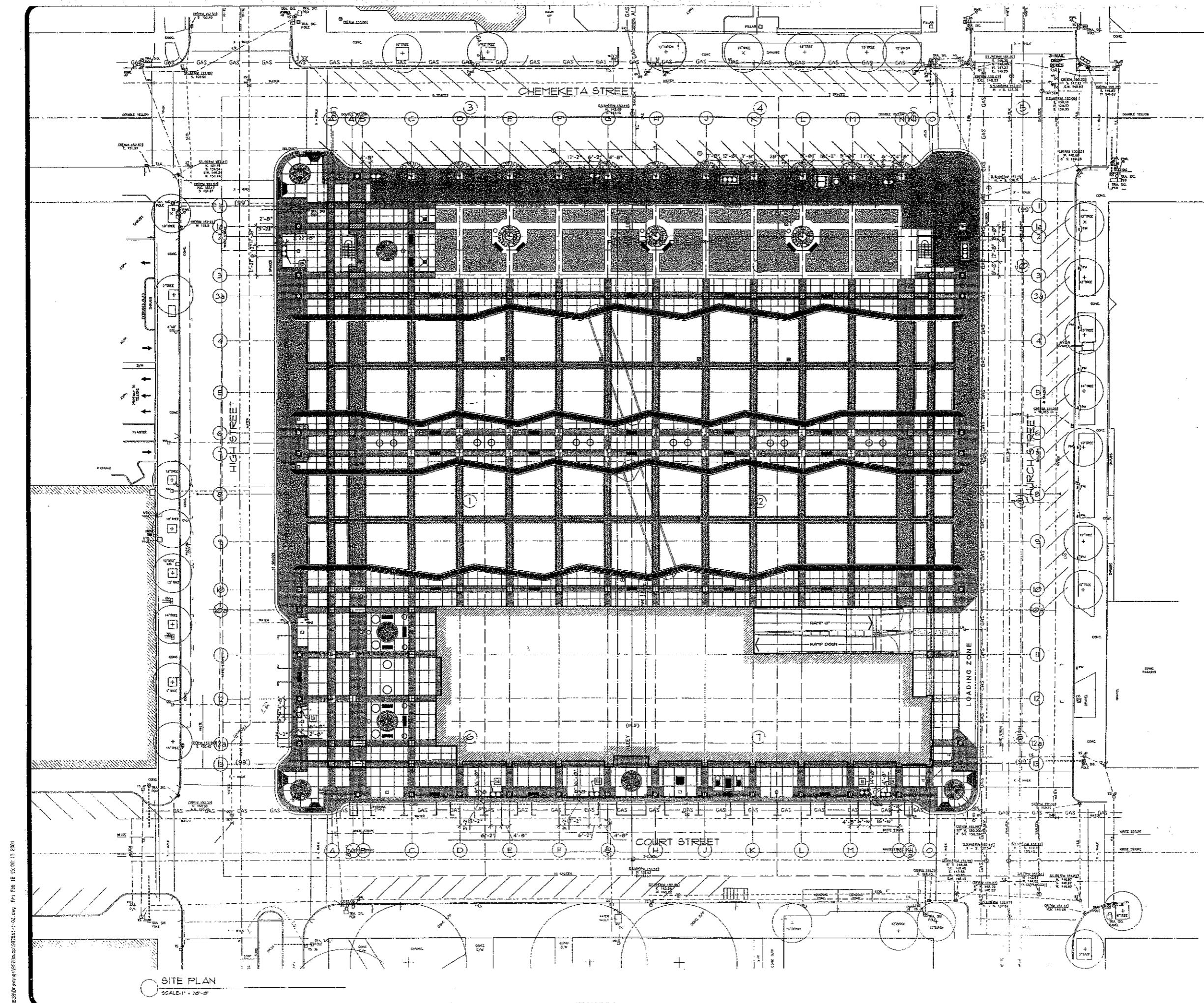
Billy Wasson, Marion County

Date

---

John Whittington, Salem Area Mass Transit

Date



STREETSCAPE  
KEY PLAN

GENERAL NOTES

1. GENERAL NOTES APPLY TO ALL DRAWINGS.
2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES. PROVIDE CONSTRUCTION FENCING AS REQUIRED TO SECURE SITE UNTIL BUILDING CONSTRUCTION BEGINS.
3. THIS SURVEY HAS BEEN PROVIDED BY THE OWNER. INFORMATION SHOWN HEREIN IS INCLUDED FOR CONTRACTOR'S REFERENCE ONLY. ARBUCKLE COSTIC ARCHITECTS DOES NOT WARRANT INFORMATION SHOWN HEREON AS NECESSARILY COMPLETE OR ACCURATE.

PLAN NOTES:

1. REMOVE EXISTING STREET LIGHT, TURN OVER TO PGE.
2. REMOVE EXISTING SANITARY SEWER IN CLOSED ALLEY AFTER NEW SEWER LINE IS CONNECTED ALONG CLOSER SIDEWALK SHOWN ON DRAWING CM AND C1B.
3. REMOVE UTILITIES FROM CLOSED ALLEY. ARRANGE WITH RESPECTIVE UTILITIES FOR CAPPING AT STREET LINES.
4. REMOVE EXISTING CONCRETE CURB AND WALKS. CUT BACK ASPHALT ROAD AS INDICATED ON CIVIL DRAWINGS.
5. REMOVE AND CAP EXISTING TENTING WELL CASING TO DEG STANDARDS.
6. REMOVE UTILITY VAULTS.
7. EXISTING HYDRANT TO BE RELOCATED. SEE CIVIL DRAWINGS.
8. REMOVE EXISTING TREE TRUNK AND ROOT BALL.
9. REMOVE EXISTING SIDEWALK, FREIGHT ELEVATORS AND OTHER FOUNDATION ELEMENTS IN PUBLIC RIGHT OF WAY TO BE DEMOLISHED.
10. REMOVE UTILITY VAULT, FLUSH WITH SIDEWALK.
11. 660-PGE UTILITY VAULT, FLUSH WITH SIDEWALK.
12. 816-TA AT&T/C UTILITY VAULT, FLUSH WITH SIDEWALK.
13. 264-TA DATA/CO/UTILITY VAULT, FLUSH WITH SIDEWALK.
14. 264-TA US-SEST UTILITY VAULT, FLUSH WITH SIDEWALK.



JOB NO. 9828

DATE FEB. 25, 1996

DRAWN

REVISIONS

09/02/1995 PGE VAULT

05/01/2000 UTILITY VAULT



ARBUCKLE COSTIC  
ARCHITECTS, INC.  
163 STATE STREET  
SALEM, OREGON 97301-3333  
503/581-1414  
503/581-3445/Fax

COURTHOUSE  
SQUARE

COURT & HIGH STREET  
SALEM, OREGON

SHEET

01/13/2001

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RECORD DRAWING

ARBUCKLE COSTIC ARCHITECTS Inc.

01/13/2001

A.1.1.2



# COLUMN SCHEDULE

LEVEL	MARK	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
	LOCATION										
	DATA										
ULTIMATE LOADS	DEAD	181		60		129		101		104	
	TOTAL	144		16		154		105		124	
	COLUMN SIZE AND DETAILS	12" x 12"		12" x 12"		12" x 12"		12" x 12"		12" x 12"	
	VERTICAL REINFORCING	4 - #6		4 - #6		4 - #6		4 - #6		4 - #6	
5th FLOOR	LATERAL REINFORCING	12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.	
ULTIMATE LOADS	DEAD	534		180		266		280		224	
	TOTAL	422		165		582		284		280	
	COLUMN SIZE AND DETAILS	12" x 16" <i>PERF 16"</i>		12" x 12"							
	VERTICAL REINFORCING	4 - #6		4 - #6		4 - #6		4 - #6		4 - #6	
4th FLOOR	LATERAL REINFORCING	12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.	
ULTIMATE LOADS	DEAD	521		200		404		508		534	
	TOTAL	650		250		511		581		200	
	COLUMN SIZE AND DETAILS	12" x 16"		12" x 12"		12" x 16"		12" x 16"		12" x 12"	
	VERTICAL REINFORCING	5 - #6		4 - #6		4 - #6		5 - #6		4 - #6	
3rd FLOOR	LATERAL REINFORCING	12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.	
ULTIMATE LOADS	DEAD	705		270		592		416		462	
	TOTAL	816		301		694		544		426	
	COLUMN SIZE AND DETAILS	12" x 16"		12" x 12"		12" x 16"		12" x 16"		12" x 12"	
	VERTICAL REINFORCING	10 - #6		4 - #6		5 - #6		5 - #6		4 - #6	
2nd FLOOR	LATERAL REINFORCING	12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.	
ULTIMATE LOADS	DEAD	685		540		644		524		465	
	TOTAL	106		424		666		704		585	
	COLUMN SIZE AND DETAILS	12" x 20" <i>PERF 16"</i>		12" x 16"		12" x 20"		12" x 22"		12" x 16"	
	VERTICAL REINFORCING	10 - #6		4 - #6		5 - #6		5 - #6		5 - #6	
GROUND FLOOR	LATERAL REINFORCING	12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.	
ULTIMATE LOADS	DEAD	1012		505		708		600		674	
	TOTAL	1204		571		1002		1065		1053	
	COLUMN SIZE AND DETAILS	12" x 26" <i>PERF 16"</i>		12" x 16"		12" x 20"		12" x 22"		12" x 16"	
	VERTICAL REINFORCING	14 - #6		4 - #6		12 - #6		12 - #6		10 - #6	
PARKING LEVEL	LATERAL REINFORCING	12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.		12" x 12" O.C.	
ULTIMATE LOADS	DEAD	1012		305		100		856		674	
	TOTAL	1204		571		1002		1058		1050	
	FOOTING LOAD	-		-		-		-		-	

PERMIT SET  
CONTRACTOR'S RECORD  
DRAWING

CENTURY WEST  
STRUCTURING CORPORATION  
1515 Portland Street  
Portland, Oregon 97223  
503-231-6072 Phone 503-231-6482 Fax

4090-300 1-04



JOB NO. 1  
DATE DEC. 30,  
DRAWN  
REVISIONS

ARMSTRONG COTTIC  
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365 STATE STREET  
SUITE 1000  
PORTLAND, OREGON 97204  
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COURT  
SQUA

# COLUMN SCHEDULE CONT.

LEVEL	MARK	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20
	LOCATION										
	DATA										
ULTIMATE LOADS	DEAD	182		146		165		342		453	
	TOTAL	591		540		448		650		646	
	COLUMN SIZE AND DETAILS	12" x 12"		12" x 12"		12" x 12"		12" x 14"		12" x 14"	
	VERTICAL REINFORCING	5 - #6		5 - #6		5 - #6		5 - #6		5 - #6	
PARKING LEVEL	LATERAL REINFORCING	12" x 12" O.C.									

# COLUMN SCHEDULE CONT.

LEVEL	MARK	C21	C22
	LOCATION		
	DATA		
ULTIMATE LOADS	DEAD	61	66
	TOTAL	266	180
	COLUMN SIZE AND DETAILS	12" x 12"	14" x 14"
	VERTICAL REINFORCING	4 - #6	4 - #6
PARKING LEVEL	LATERAL REINFORCING	12" x 12" O.C.	12" x 12" O.C.

